DOCUMENT RESUME

ED 072 885 RC 006 763

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TITLE	Process Analysis of Non-Graded Rural Schools in Sweden. Outline of an Evaluation Project.
INSTITUTION	Gothenburg Univ. (Sweden). Inst. of Education.
PUB DATE	Feb 73
NOTE	20p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Boarding Schools; Curriculum Design; *Decentralized School Design; Economic Factors; *Educational Programs; Elementary School Students; *Evaluation; High School Students; Population Trends; *Rural Schools; Social Factors; *Ungraded Schools
IDENTIFIERS	*Sweden

ABSTRACT

The Process Analysis of Non-Grading (PANG) project evaluates the planned experiments with non-graded upper grades in communities with few pupils in Sweden. The main objectives is an analysis of the possibilities and difficulties that will appear through the new frame situation concerning realization of achievement goals and social goals. Six school districts in the middle and northern parts of Sweden are included in the 1973-74 part of the investigation. The main components of the investigation include the class, the spare time activities, the friends, the home, and the community. The data are collected by means of tests and questionnaires from 7th grade students, teachers, and administrators. Follow-up questionnaires are used with the teachers, and data about the parents are collected through interviews. Classroom observations are done at random on some occasions during the session. The project is planned to continue for 4 years, in order to follow the first 2 groups of pupils through the upper grades; but the reporting will be done continuously so that necessary modifications can be made as needed. (PS)

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PROCESS ANALYSIS OF NON-GRADED RURAL SCHOOLS IN SWEDEN. OUTLINE OF AN EVALUATION PROJECT

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February 1973

RC 006763

Introduction

In Sweden the process of urbanization during the last decades has shown a decrease of the rural population and the population in the small communities, and as a corresponding increase of population in the big cities and their suburbs. The reasons are to be found in the structural changes of the economy which consist of considerable rationalizations resulting in a decrease of employment in the actual trades, agriculture and forestry, and an expansion of the urban trades, industry and service. These changes have had a particularly great effect in certain regions of the country, e.g. the depopulation in the inland parts of Norrland (the northern part of Sweden) and people moving into the Stockholm area (the capital). Slogans as "Save Norrland" and "We won't move" are manifestations of the anxiety which has been caused by the great post-war migrations in Sweden (Rydberg 1971). The most problematic rural areas are to be found in the southern parts of the so-called "skogslän" or forest provinces, and in the archipelagos in different parts of the country.

The problems of the rural areas are first and foremost a consequence of the dispersed settlement. The population basis for different collective activities are therefore weak and the distances to different institutions are great for a substantial part of the population. Great distances to service, place of work and social contacts are therefore an essential feature of the rural areas.

The aim of the Swedish regional policy has been stated to be to create more equality in the economic, social and cultural fields between people in different areas i.e. to guarantee good living conditions in all parts of the country. Fundamental aims of the care of the society in different domains are the security of the individual and freedom of choice in different respects.

In these circumstances one has more and more concentrated on the question of access to certain basic service activities concerning goods as well as services, health service and other social care, basic education and questions concerning employment in the rural areas.

Sweden covers 175 thous. sq. miles (450 thous. sq. km), i.e. about the same area as California, and lies between the same latitudes as Alaska. Some basic data about the Swedish population and its distribution to different sectors are given in table 1.

Table 1. Distribution and trends in the population of Sweden in the years 1930, 1950 and 1971.

	1930	1950	1971
Population, total, end of year 1000	6.140	7.045	8.129
of which urban population 1000	1.995	3.285	5.700
Population density, inhab. per sq.mile	36	41	51
Gainfully occupied, 1000	2.876	3.105	3.865 *
Percentage distribution by sectors:			
agriculture ...	36.2	20.3	7.3 *
mining, manufacturing and construction ...	32.3	40.8	37.1 *
trade transport and communications ...	17.8	24.1	26.9 *
general administration and professions ...	6.4	11.1	28.6 *
others ...	7.3	3.7	0.1 *

* Estimate

Background

Lately the school problems in the rural areas have been subject to much discussion. The parents have gone on strike in order to keep the local school. The alternatives offered are long rides between home and school or to board and lodge in the main town with time-consuming home journeys at the week-ends. Conflicts of this kind are primarily examples of the importance of the school for the life of the local district. It is also an example of a lack of confidence: Every additional closing down of schools speeds up the depopulation process of the rural areas which has already gone far enough, and people distrust the will and capacity of the authorities to break the tendency.

You could get the impression from the discussions that the authorities are indifferent and the scientists passive. This is wrong, however. In reality both the decentralized school authorities and the Board of Education have been very attentive to local initiatives and helped in realizing constructive proposals into practical experiments.

It started in Stöllet, Värmland, Autumn 1970. The number of pupils in the upper grades of the compulsory school (grade 7 - 9) was not enough according to the existing rules to have one class in every grade. However, they got a permission to let the pupils in the 7th, 8th and 9th grades remain and study together. The solution resembles much the old B-schools (one teacher teaching more than one grade at the same time) or one-teacher-schools that exist for the lower grades, but there are also some differences.

The system gives interesting opportunities for individualization, which have been tried in certain American schools for quite a long time already, but seldom under such conditions that would allow us to take over the model or the results to Swedish conditions. There are other methodical demands than in traditional classroom teaching; demands on the time-schedule, the study material, demands on the teacher's planning and tuition, demands on group-work and individualization on the part of the pupils.

Many of these demands answer very well to the goals stated in the new curriculum plan of Sweden (Lgr -69). The adaptation will probably take time as well as energy but a lot of circumstances indicates that it might be worth the price.

If the results are equally good or even a little bit better, these experiments ought not only to provide a good solution of the problem of the upper grades in the rural areas, but also through their effects to be of more general worth as a part of a general active regional policy. It is therefore important that the experiments will be evaluated in a comprehensive way.

With means granted by the Board of Education for research a follow-up study is now carried out at the Institute of Education at the University of Göteborg.

Problems

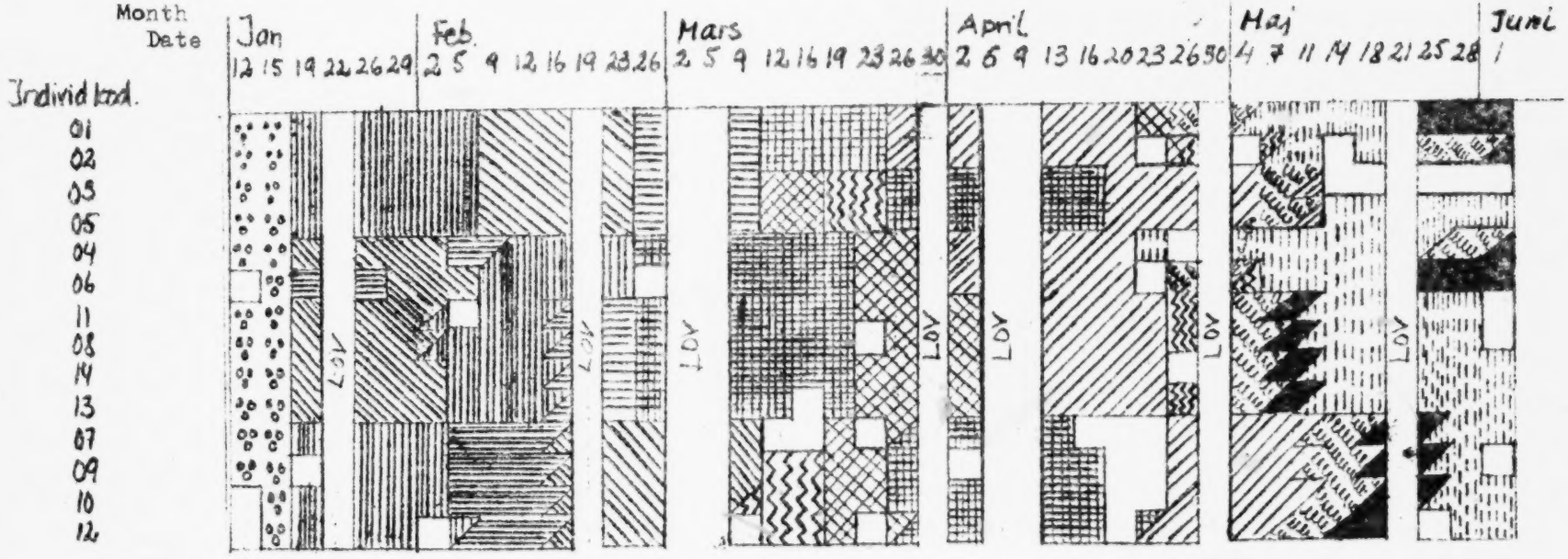
1. The purpose of the investigation is in the first step to try out a suitable strategy for a follow-up of the teaching process within a non-graded school system and its results with regard to the pupils' knowledge and the social effects. This signifies a further development from a methodical point of view of the first experiments which have started in Stöllet, Värmland (Andrae 1971), i.e. a current registration, where the task, the time devoted, the supplements and the cooperation are accounted for each pupil. The activities of the pupils can thus be presented according to fig. 1 and 2, and these assignments should be related to the background variables as well as the result variables and the teacher variables.

2. In the next step the goal is to evaluate the effects of such a restructure of a conventionally graded school system that it will constitute a working unit without regard to grades. The evaluation concerns primarily a) the teaching process and the results of b) achievement and c) social effects. The goal ought therefore to include experiments throwing light upon different forms of co-reading between subjects, courses and classes in the respects mentioned above.

3. The goal is also to relate the above mentioned integrative alternatives to a social anthropological general picture regarding local as well as regional variables. The society ought to be looked upon as a system i.e. a set of mutually depending objects. The main point then will be to throw light upon the importance of the school as a factor for localisation and local effects from the localisation of educational opportunities to a community.

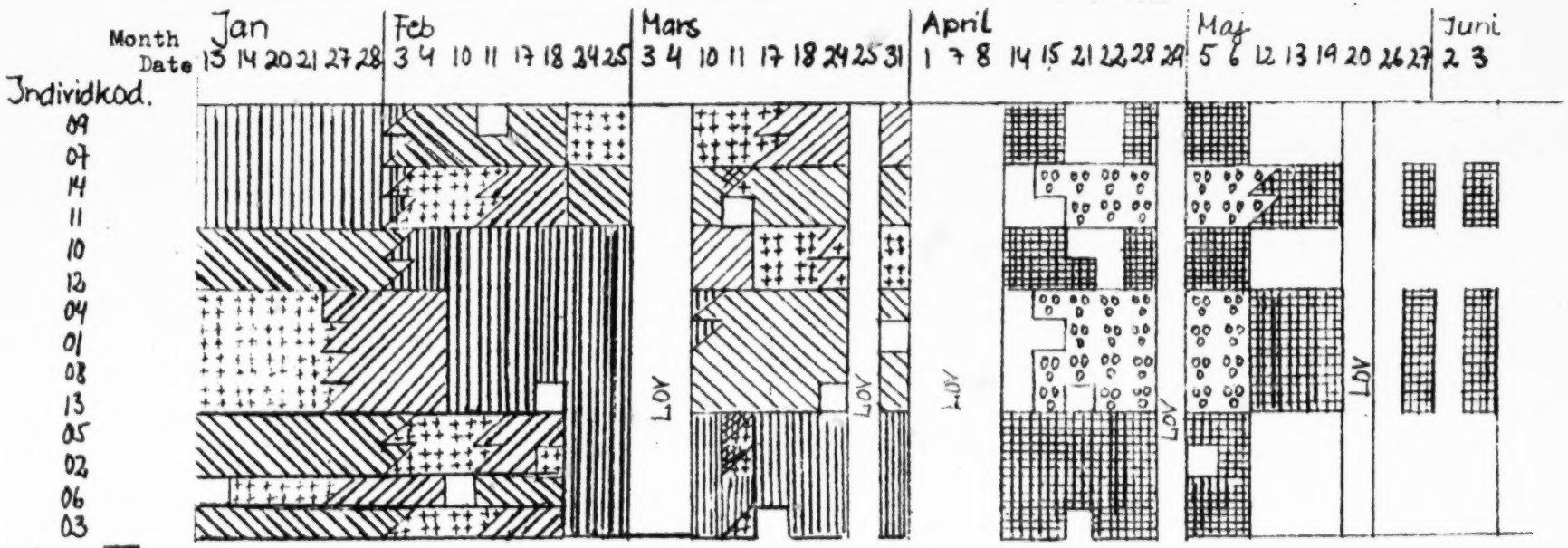
The follow-up should give such information about the actual function in this non-graded system related to other alternatives of action that you could, to a certain extent, form an opinion of its conditions and effects regarding the achievement and the personality developing functions. In this connection the pupil's total situation must absolutely be clarified and the connection between school, home and community situations should be in focus.

Fig. 1 a Social Science during second semester 1971



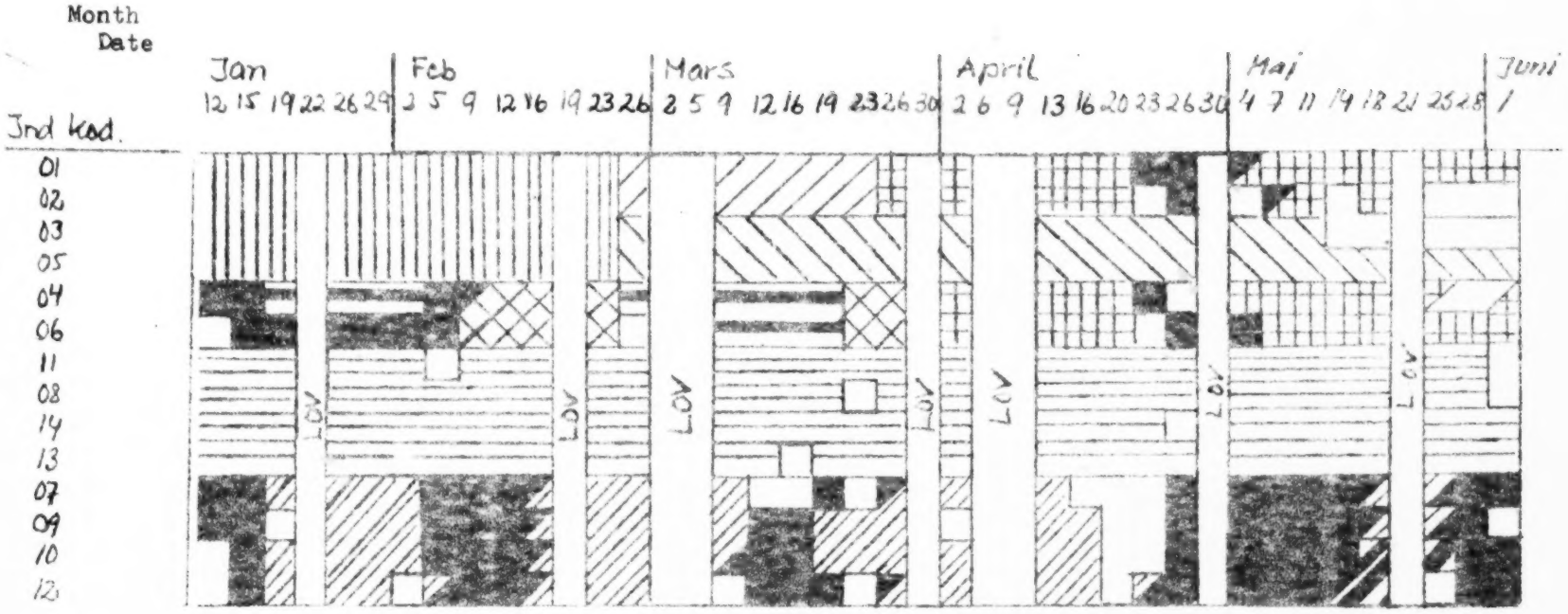
1. = Greece
2. = The factory
3. = The nature and climate of the world
4. = The Israelites and the world
5. = Egypt, past and present
6. = Tobacco, alcohol and drugs
7. = The ancient Greece
8. = The Judaism
9. = South and East Asia
10. = The Roman Empire
11. = The great migrations in Europe
12. = Days absent because of illness

Fig. 1 b Physic Science during second semester 1971



1. = The heat in the nature
2. = The air
3. = Health and Hygien for Teenagers
4. = The life under a microscope
5. = Water
6. = A type of nature in spring time
7. = Days absent because of illness

Fig. 2 a Social Science during second semester 1971

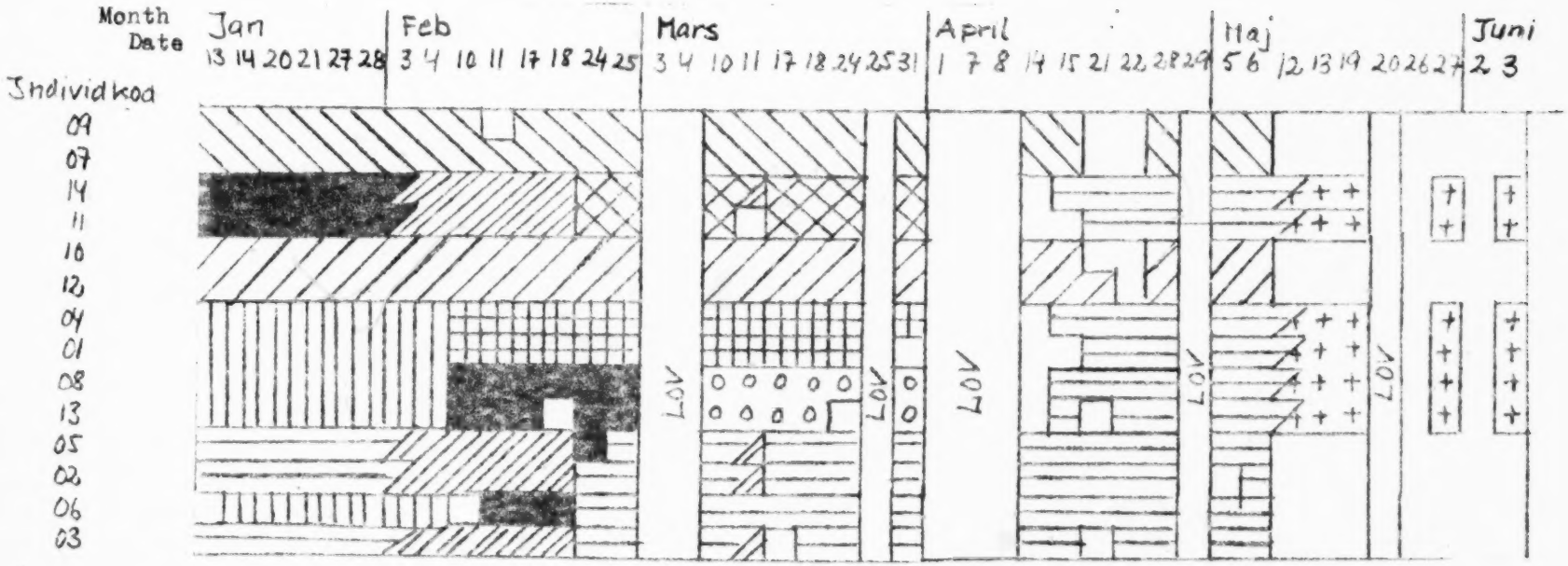


1. = individual study

2. = days absent because of illness

3. Pattern = studying in groups

Fig. 2 b Physic Science during second semester 1971



1. = individual study

2. = days absent because of illness

3. Pattern = studying in groups

During the first phase the main thing is to use information from the evaluation to modify the teaching in accordance with the basic assumptions of the system (formative evaluation) or to create with the aid of experience a teaching situation, which is realistic with regard to teachers, textbooks and other frame factors even if you have to renounce some of the assumptions.

Conclusion: Formative phase during 1st and 2nd year
Summative phase during 3rd year

As it is a superhuman task in this project to tackle the problem of what is called absolute evaluation related to specified goals and as the basic problem concerns the effects of variations in the frame situation and the resulting changes of the teaching process keeping essential goals, the basic evaluation pattern must follow a relative strategy.

The need of an overall view

So far the discussion has concerned factors within the school. We have stressed earlier that the evaluation ought to aim at the pupil's total situation and development. This implies - especially in the emotional and social fields, where the school to a lesser extent is the alone influencing factor than what concerns the achievement - that the evaluation as far as possible must take into consideration how the pupils' situation at home and among friends will change when you change from one teaching system to another.

A consequent application of an overall view should also lead to a more thorough penetration of what a withdrawal of the upper grades would mean to the pupils themselves, but also for homes, friends, teachers and community. An alternative situation would be that the pupils in the upper grades would have to go to school in a further away situated main town, but still live at home. Because of this there will be long rides to the school (and from an absolute point of view very long). As the school rides already are very long, this alternative is unrealistic. Another alternative will then be that the pupils in the upper grades board and lodge in the main town. From the point of view of the evaluation this is a most interesting alternative, as it implies that the situation at home and among friends will radically change. The adequate group of comparison

will then be not graded classes as a whole but boarders and their situation in the central schools of the type that would be an alternative to a smaller compulsory school with upper grades threatened of withdrawal. A comparison with "conventional" class teaching in districts where the number of pupils is still enough, might be needed in order to better estimate the pedagogical costs e.g. expressed in time devoted to teaching or the cost/pupil to keep the upper grades.

It seems possible to isolate a number of different components in the home situation and the life of the community, which is sensitive to such changes as a withdrawal of the upper grades. Within the project it is important having such factors in the background, against which the pure pedagogical results should be seen.

To let the young people get their education within a reasonable distance from home (Hammarberg, Olsson 1971) would be a minimal goal. Even if there are organized rides to school, the pupils can not only live at home but also function as a member of the local society (Brox 1972). From a local and regional point of view the preservation of a school that should be closed down means a contribution to slow down the depopulation process in the rural areas regarding teachers and school administrators and especially families with teen-age children, who prefer to move instead of letting the children become boarders (Rydberg 1971, ERU 1972).

This argumentation does not say anything, however, about what you expect of these young people after they have passed compulsory school, the 9th grade. What is the further goal of the school policy in the rural areas? A more detailed examination of the Swedish policy in the rural areas and the localisation of schools ought to be started within the project. This should be regarded as important, especially considering what have been done in the social-anthropological field with a high degree of relevance concerning these problems. (Andersson L 1970, Dahlgren 1972).

The relation to earlier research

Experiments with non-graded schools have lately been carried out to a greater extent in the USA, starting with the activities at the University of California in Los Angeles (Goodlad & Anderson 1963 and others).

A similar school form is what is called B-form of the Swedish compulsory school, which has not been systematically evaluated. One does not seem to have seriously tried to evaluate the non-graded schools as a system in the USA either: The majority of reports are of the conventional before- and after-type. The lack of process data enlightening the actual pedagogical situation and teaching process causes considerable obscurities in the evaluation of comparisons between experiment schools and control schools.

The evaluations have often considered individualized teaching materials, which have constituted the structure in a so-called non-graded system, where the grades have been deplaced by different so-called "levels" in a program. These programs have mainly been administrated in the lower grades (Smith 1967, Miller 1967).

In this project we will apply the principles of process- and pupil analysis, which have been elaborated within the COMPASS project ("Comparative analyses of objectives and processes of school systems") at the Institute of Education at the University of Göteborg. From a theoretical point of view the non-graded upper grades are interesting as a special case of a more individualized curriculum, the opposite of which is class teaching where the pupils in a homogeneous age group are to a great extent taught collectively and where such steering-group phenomena easily appear as described earlier by Dahllöf (1967, 1971), Dahllöf & Lundgren (1970) and Lundgren (1972).

But the experiments with non-graded upper grades can also be described as a special frame situation for a follow-up study of a curriculum reform according to principles discussed by Dahllöf (1970) and Dahllöf, Lundgren and Siöö (1971), according to whom the stress of the follow-up study will be put on an overlapping analysis of didactic problems and time consumption at the realization of the new plans. Without such an analysis it is not meaningful to carry out more detailed measurements of results of neither achievement nor attitudes.

Comparative groups

As there is still plenty of time before systematical comparisons of non-graded pupils are meaningful and as comparisons do not need to include all stages but primarily certain relations, it is now enough to conclude the different types of situations discussed above, of which non-graded upper grades are alternative number 2 (table 2).

Table 2. Conclusion of typical frame situations for teaching between which are actual comparisons in experiments with non-graded upper grades.

A = Present school community (rural areas)
B = Living at home
C = Main town (alt. 2 A)

G = Grading
I = Boarding
NG = Non-grading

No	The pupils live	School community	Pupil transportation	Teaching model	Type
1	At home	A	Rather short	G	BAG
2	" "	A	" "	NG	BANG
3	" "	C	Very long	G	BCG
4	Boarding	C	None	G	ICG

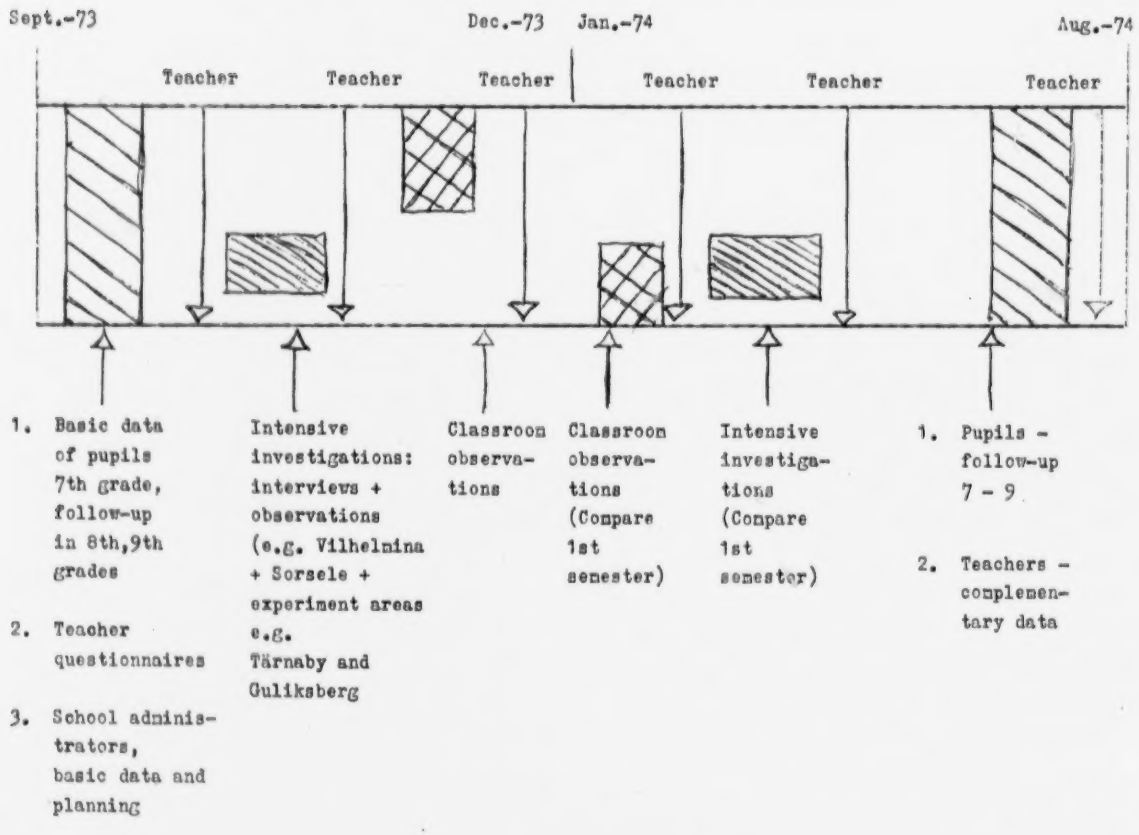
Primarily the types BAG and ICG seem to be meaningful alternatives to BANG. Before any real studies will be done of the boarding and the alternatives of long school lifts, there ought to be a systematical examination of literature about studies concerning the effects of such environment factors.

Six school districts in the middle and the northern parts of Sweden are included in the investigation.

General design during the session 1973/74

The planning of the session 1973/74 includes a determination and a further development of the experiences in Värmland and an enlarged view of the education from a social point of view grounded on the above mentioned studies of literature. The main components of this program are then: the class, the spare time/the friends, the home and the community.

The working plan for the session of 1973/74



Continuous planning and follow-up meetings with representatives from the school administration during the whole session.

According to the working plan the main points of the program are the following:

1. a) A basic data investigation (group tests, questionnaires, achievement tests in 6th grade, marks in the 6th grade) among the pupils in the 7th grade. At the same time the pupils from the years before are followed up in certain attitude variables.

   b) A basic data investigation (questionnaires and interviews) among the teachers, who taught the 7th graders last session.

   c) A basic data investigation among the school administrators concerning planning etc. during next session.

2. At repeated occasions teachers in different subjects are given questionnaires in order to follow up the course of the teaching, the planning and how the teaching actually was carried through. The questionnaires are followed by telephone calls and interviews when visiting the schools in order to straighten out misunderstandings and for completions. Different subjects are spread at different occasions during the session in order to get a more even distribution of work.

3. On two occasions intensive studies are done in one or more experiment areas e.g. Tärnaby and Guliksberg. These studies should involve the components: spare time/friends and home and these intensive studies should also concern the control areas which include the pupils who have a long ride to school and pupils who are boarders, e.g. live in boarding house e.g. in Vilhelmina and Sorsele.
   Some preliminary discussions have during this session taken place with school administrators and the principal of the boarding house in Vilhelmina. Observations and interviews with these groups should here be used as well as contacts and interviews with the elected to city council and spare time activity.
   Data about the parents are collected through interviews.

4. The classroom observations are done at random on some occasions during the session. A method based upon the experiences from the COMPASS project (Lundgren 1972) and preliminary investigations in Värmland and during this session, is applied (Andrae 1971).

Points 1 and 2 involve an application of gained experiences and tested methods. Point 3 demands testing of new methods, specifying preliminary variable areas, localisation of relevant respondants and preliminary experiments. Point 4 includes application of experiments during this session.

Schematically the application and development of the methods and the collection of information include, according to this working plan for the session 1973/74, as follows:

Main component	Examples of variable categories	Source	Method	Demands for further development of method
The class	Background variables Working methods Time-Consuming etc	Pupils	Group test (1st semester -73	
	Follow-up of work, attitudes etc	"	Questionnaires Tests Journals	
	Planning, work etc Continuous registration of the teaching process	Teachers	Interviews, questionnaires continuously	
		"	Continuous reporting	
	Planning etc	School administrators	Interviews Acts	+
Spare time and friends	Pupil development, attitudes,	Pupils	Questionnaires	+
	adaptation,	Club leaders,	Interviews	+
	activities,	Youth leaders,	"	+
	relations among friends,	Principal of Boarding House	Observations and acts	+
	pupil transportation, Available time			
Home	Activities, Home relations, Community relations etc	Parents	Interviews	+
The community	Regional and local resources, planning within different sections. Cultural and economical aspects	Representants	Interviews, Acts and Documents	+ +

Conclusions

The PANG project (PANG = Process Analysis of Non-Grading) aims to evaluate the planned experiments with non-graded upper grades in communities with few pupils. This is primarily done through a study of how the teaching process turns out from both the pupil's and the teacher's point of view, when applying non-grading.

The main point is an analysis of which possibilities and difficulties will appear through the new frame situation concerning realization of achievement goals as well as social goals. The importance of the school in a more general illumination of the effects of localisation in the community planning is related to the aspects of regional and local planning in an attempt to throw light upon the total picture of society for the inhabitants of the rural areas.

Such an analysis of the teaching situation is a necessary assumption to examine the result of achievement tests and questionnaires given to teachers and pupils in the experimental schools and teaching situations and other alternatives of action e.g. long rides to school and boarding.

The project is planned to continue for 4 years, in order to make it possible to follow the first two groups of pupils through the upper grades, but the reporting will take place successively so that necessary modifications, if any, can be done already after the first year of activity.

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